DOE/EH – 0665

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Report from the DOE Voluntary Protection Program Onsite Review, October 22-24, 2002

U.S. DEPARTMENT OF ENERGY
Office of Environment, Safety and Health
Office of Worker Health and Safety
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Contents

Abbreviations and Acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
APT	Accident Prevention Team
BLS	Bureau of Labor Statistics
CFR	Code of Federal Regulations
CIH	Certified Industrial Hygienist
CSP	Certified Safety Professional
D&D	Decontamination and Decommissioning
DOE	U.S. Department of Energy
DOE-VPP	U.S. Department of Energy Voluntary Protection Program
ECP	Employee Concerns Program
EH	Office of Environment, Safety and Health
EH-1	Assistant Secretary for Environment, Safety and Health
EH-5	Office of Worker Health and Safety
EH-51	Office of Occupational Safety and Health Policy
ES&H	Environment, Safety, and Health
HASP	Health and Safety Plan
HLW	High Level Waste
IH	Industrial Hygiene
IH&S	Industrial Hygiene & Safety
IUOE	International Union of Operating Engineers
ISMS	Integrated Safety Management System
IWP	Industrial Work Permit
JHA	Job Hazard Analysis
JSA	Job Safety Analysis
LWDI	Lost Workday Incidence
MSDS	Material Safety Data Sheet
NFS	Nuclear Fuel Services
NRC	Nuclear Regulatory Commission

OSHA	Occupational Safety and Health Administration [of the U.S. Department of Labor]
PHA	Preliminary Hazard Assessments
PHH	Processing Packaging Handling
PPE	Personal Protective Equipment
PM	Preventive Maintenance
RII	Recordable Injury Incidence
S&H	Safety and Health
SIC	Standard Industrial Classification
VPP	Voluntary Protection Program
VPPPA	Voluntary Protection Program Participants Association
WRG	Work Review Group
WVDP	West Valley Demonstration Project
WVNSCO	West Valley Nuclear Services Company

Overview

West Valley Nuclear Services Co., a subsidiary of Washington Group International (WGI), has been the prime contractor at the West Valley Demonstration Project since the Project's inception in the early 1980s. The history of the West Valley Demonstration Project (WVDP) is unique within the DOE Complex. The Project is located on a New York State-owned reservation, which is the site of the only commercial spent nuclear fuel reprocessing facility to have ever operated in the United States. Nuclear Fuel Services (NFS) operated the facility under a lease arrangement with the State of New York from 1966 to 1972, during which time approximately 640 metric tons of spent fuel was reprocessed and over 600,000 gallons of liquid high-level waste was generated. Approximately 60% (by volume) of the spent fuel reprocessed at the West Valley facility came from the N-Reactor at Hanford under a baseload contract with the Atomic Energy Commission (AEC), with the remainder of the fuel coming from commercial nuclear plants. In 1972 NFS shut down reprocessing operations to make facility modifications, and later, in 1976, made the decision to cease operations permanently and turn the facility over to the State of New York, as was permissible under the arrangement they had with the State.

In 1980 Congress passed the West Valley Demonstration Project (WVDP) Act (Public Law 96-368), which required that the Department of Energy conduct a high-level waste solidification project at the West Valley facility. The WVDP Act requires the Secretary of Energy to:

(1) solidify, in a form suitable for transportation and disposal, the high-level radioactive waste at the Center by vitrification or by such other technology which the Secretary determines to be the most effective for solidification;

(2) develop containers suitable for the permanent disposal of the high-level radioactive waste solidified at the Center;

(3) as soon as feasible, transport, in accordance with applicable provisions of law, the waste solidified at the Center to an appropriate Federal repository for permanent disposal;

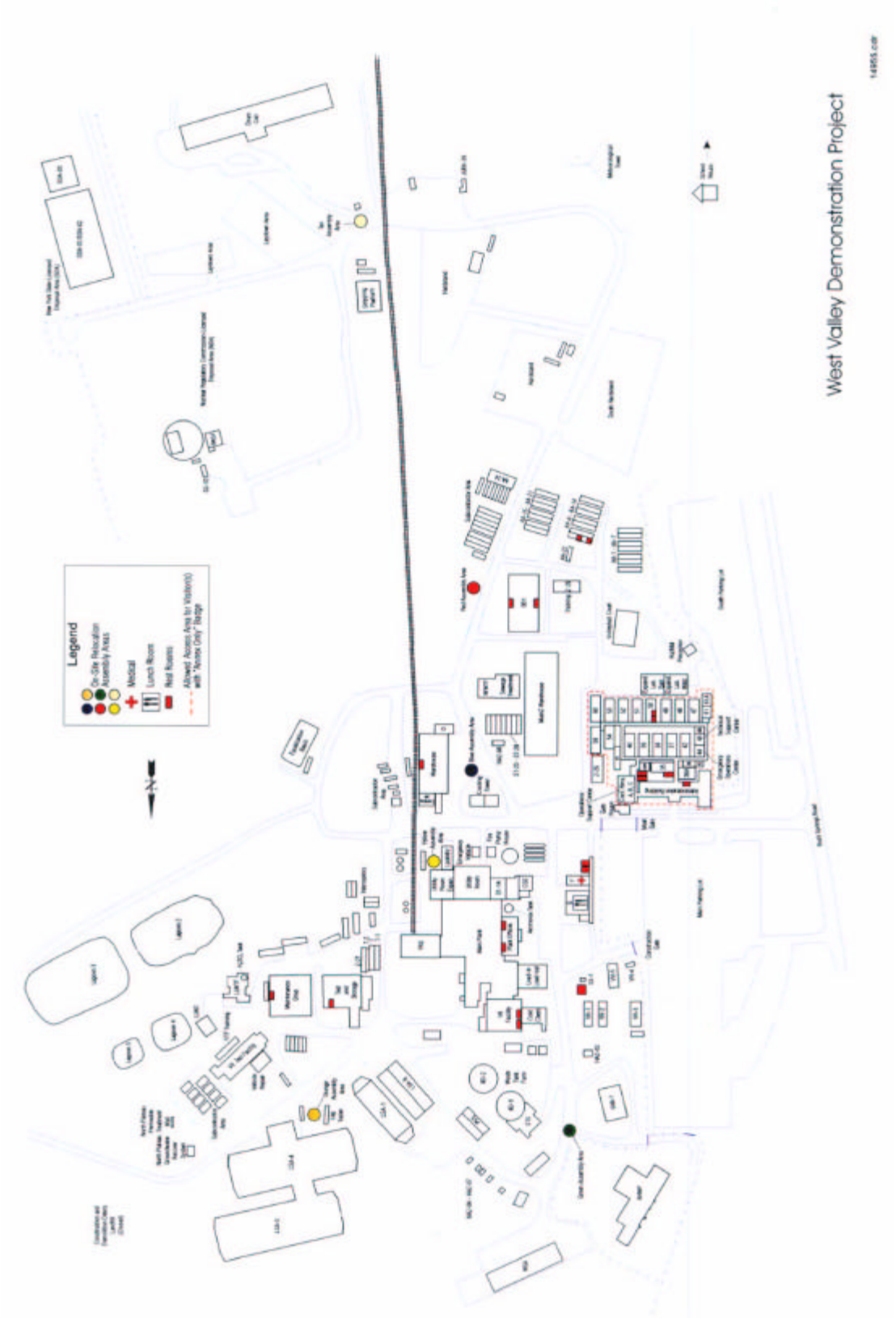
(4) in accordance with applicable licensing requirements, dispose of low-level radioactive waste and transuranic waste produced by the solidification of the high-level radioactive waste under the project;

(5) decontaminate and decommission - (a) the tanks and other facilities of the Center in which the high level radioactive waste solidified under the project was stored, (b) the facilities used in the solidification of the waste, and (c) any material and hardware used in connection with the Project.

The WVDP Act required the State of New York to make the facility and waste available to DOE, without transfer of title, in order that DOE could conduct the Project. The State of New York was also required to pay 10% of the Project cost, however, DOE has full operational management responsibility for the Project under DOE Orders (the NRC license for the former commercial facility was put in abeyance while DOE is conducting the Project.)

In September of 2002, the WVDP completed solidification of the liquid high level waste (HLW), the primary focus of the WVDP Act. There are currently 275 vitrified HLW canisters in storage, awaiting transport to a Federal repository. The WVDP has now transitioned to the remaining work scopes required by the Act, and is moving into larger scale decontamination/waste removal and waste disposition. An Environmental Impact Statement is being prepared to evaluate decommissioning options. Over the next two years, the site is focused on completing construction of a facility to handle high-activity waste that requires remote handling, decontamination/source term removal and characterization in the most highly contaminated areas of the facility, and draining of a former spent nuclear fuel storage pool. According to the WVDP's Performance Management Plan, future work includes proceeding with waste management and decommissioning actions in parallel, with a target completion date of 2012 (with the exception of the HLW canisters, which will require storage until they can be shipped to a Federal repository.)

Over the last year WVNSCO has also completed an effort to transition the workforce to support the changes in work scope (from vitrification to deactivation, decontamination, and waste disposition. As a result, approximately 40 WVNSCO employees with vitrification expertise have been transitioned to sites such as Hanford and Savannah River.


West Valley Demonstration Project
Legend
Medical
Lunch Room
Rest Rooms

Executive Summary

This report summarizes the Department of Energy (DOE) Voluntary Protection Program (VPP) re-evaluation of West Valley Nuclear Services Company October 22-24, 2002.

The three-member re-evaluation team reviewed program documentation, conducted formal and informal interviews with associates and managers, made workplace observations, and analyzed the company's injury and illness experience. The team identified and documented improvements under all of the VPP elements. It is believed that West Valley Nuclear Services Company's success in establishing exceptional employee involvement and management commitment has maintained continuous improvement during the last three years.

Management Leadership — Managers actively seek employee involvement in all safety-related activities and programs. West Valley Nuclear Services Company management continues to implement policies and procedures that have affected an excellent safety and health culture. WVNSCO management is visibly involved in all aspects of the safety and health program. It continues to promote a zero tolerance policy for accidents that might result in occupational exposures and environmental contamination. WVNSCO management also promotes its safety improvement plan through safety awareness programs such as the "Weak Moment In Time" (WMIT) safety awareness campaign as well as using a number of safety related tools including brown bag lunches, posters, news letter articles and major "zero" campaigns to keep safety prominent in the conscience of the West Valley employees.

Management Leadership is demonstrated by walking around and visiting with employees in their workplaces, the President's Round Table, and an open door policy and involvement in the Central Safety Committee demonstrate management's commitment to the safety and health programs at the site.

Employee Involvement — The safety responsibilities of employees are clearly established and defined. Employees continue to be actively involved in a number of employee-driven programs and committees. Noteworthy programs include the Weak Moment In Time safety campaign, Interstate Zero, and the WVDP Health and Safety fair. Employees actively participate on the Off-the-Job safety committee, which sponsors a Safe Kids Fair for the local community; and the Safety Success Team.

Employees indicated they are involved in the development and review of work instructions. Interviews with employees indicated employees provide input on work to be done. Workers are also involved in pre-issuance walk downs to ensure agreement of work instructions. Several WVNSCO processes have evolved from team efforts to cognizant subject matter expert driven efforts. It should be noted that the evaluation team had some initial reservations regarding the viability of these changes in approach. However, these concerns were abated due to the clear definition of responsibilities and evidence that the designated subject matter experts were still able to obtain additional expertise when necessary. The Onsite Review Team was impressed with several safety acts such as reminding team members and co-workers to hold hand rails while using the stairs, to walk within the cross walks when crossing streets, and an employee suggesting to his co-worker to tie his shoe lace before he got hurt.

Worksite Analysis — The emphasis on management commitment and employee involvement is evident in increased focus on the use of teams for most worksite analysis tasks.

Worksite Analysis — WVNSCO has implemented programs and procedures that support a comprehensive, integrated worksite analysis system. The Onsite Review Team performed a thorough review of the processes comprising the worksite analysis program. Based on document review, analysis, and discussions, the Review Team concluded that all seven sub-elements of this tenet were met.

- Pre-Use, Pre-Startup Analysis — All new chemicals must be reviewed and approved by the safety department before they are used. New construction and modifications to existing buildings require the involvement of safety early in the process. Employees are involved in all phases of project planning.

- Comprehensive Surveys — Safety and health departments perform annual comprehensive surveys. Workers are involved in all surveys. In addition, workers are significantly involved in the annual VPP evaluation through the "VPP Task Team."

- Routine Hazard Assessments — Routine assessments are conducted on an ongoing basis with a multi-disciplinary team that includes workers.

- Routine Hazard Analyses — The Review Team noted routine hazard analysis at multiple levels based on the nature of the job. Repetitive tasks are reviewed under the job safety analysis (JSA) program. More complex work activity is evaluated by multi-disciplinary teams that include specific expertise depending on the nature of the work and hazards. The Onsite Review Team randomly reviewed hazard analyses and JSAs, and interviewed employees and managers. The Team concluded that hazards were well understood and communicated to workers. The output of the hazard analysis is integrated into training activities.

- Employee Reports of Hazards — The Employee Concerns Program (ECP) continues to encourage WVNSCO and subcontractor employees to formally report unsafe conditions. Employees continue to feel empowered to correct many conditions and unanimously indicated that management responded quickly when the fixes were more complex. Concerns and corrective actions are tracked on a monthly basis. The Environment, Safety and Health (ES&H) Executive Committee reviews progress and trends. Documents reviewed during the evaluation indicated that all non-imminent hazards were corrected within 5 days. Serious hazards were mitigated immediately.

- Accident Investigations — The WVNSCO Industrial Hygiene and Safety (IH&S) group reviews all injuries and illnesses, including first aid cases, and investigates all mishaps or events. IH&S employs a team approach for reviews and investigations, utilizing subject matter experts (SMEs) as appropriate. Root causes are identified to prevent recurrence. The process clearly defines evaluation and reporting requirements

- Trend Analysis — The WVNSCO performance analyses program provides data for safety and health trending. A comprehensive set of indicators is disseminated to management. Notably, the site trends safety improvements which track the number of suggestions made and corrections accomplished on a monthly basis. Injury and illness data is routinely tracked and reported to management with an emphasis on trends and focused concerns.

Hazard Prevention and Control — The hazards identified through WVNSCO's worksite analysis are eliminated or mitigated promptly. The employer is committed to the proper hierarchy of hazard control. The Onsite Review Team observed extensive reliance on engineering controls. The programs and process reflect integration with the other DOE-VPP tenets and meet the requirements for this tenet.

Safety and Health Training — Employees have complete access to their own training records. All work planning activities include a discussion of required training and knowledge. Employees receive a comprehensive set of safety training courses and the caliber, quantity, and quality of available training is judged to be very high. The Health and Safety Training Compliance Tracking System is effectively used to help the site ensure employee training and qualification currency.

OBSERVATIONS:

During the re-evaluation process the review team noted the following areas where improvements would enhance overall employee involvement.

- The Team approach is taken to work planning. However, the perception is that input by some team members is ignored in the early planning phases and then related issues surface later in the planning process. This often causes rework.

Recommendation: Establish a (formal) mechanism/requirement (for the Project Engineer) to provide feedback to the team member if the input is not incorporated and an explanation of why.

- It was identified that scheduling activities do not appear to include analysis of set-up and clean up work functions and resources (number and availability) required to accomplish that work. Employees suggested that many times current work functions are rushed in order to provide enough time to do set up for the next day (or shift's) evolution (if it is even known that set-up or equipment staging is needed).

Recommendation: Consideration of pre/post job staging and dismantling functions in work scheduling (if not already incorporated) Additional communication to workers on upcoming scheduling of work activities.

- Central Safety Committee does not currently have employee participation.

Recommendation: Include relevant employees in Central Safety Committee

The hazard environment is evolving from known hazards to potential unknowns. There is worker understanding that change is occurring, but organizational realignment and the related skill upgrades, are not solidified. Therefore, uncertainty is present. It is understood the appropriate training is forthcoming, and will help to ensure competence commensurate with responsibility. However, existing work control processes have a heavy dependence on input from operations personnel and subject matter experts. Until these individuals are solid (i.e. trained and confident) in their new work functions it appears that the existing process (i.e. outside of RWP and IWP) may not have the rigor needed to identify hazards and control work in an environment of uncertainty.

RECOMMENDATION

The re-evaluation team concluded that West Valley Nuclear Services Company continues to meet or surpass all DOE-VPP requirements and warrants re-certification.

I. Introduction

This report provides an update on the status of the occupational safety and health program at West Valley Nuclear Services Company (WVNSCO). A team consisting of three professionals from DOE-HQ, DOE-ID, and NNSA-NV (See Appendix for a roster) performed a review on October 22-24, 2002. The review consisted of a comprehensive analysis of program documents, interviews with management and employees, and workplace tours and spot checks. West Valley Nuclear Services Company received STAR level recognition under the DOE-VPP in November 1999. This is the first re-evaluation by DOE-VPP.

The report presents the onsite review team's analysis and results from the re-evaluation of West Valley Nuclear Services Company's activities to consider the site for re-certification under the DOE-VPP. It reflects extensive document review and analysis as well as the results of employee and management interviews and workplace observations The re-certification process focused on significant changes and improvements to the West Valley Nuclear Services Company's safety and health program since its certification in 1999. The plant is located on a 22 acre site south of Buffalo, New York. Approximately 500 people are employed by WVNSCO at the site.

Congress enacted the West Valley Demonstration Project Act in 1980 to solidify liquid high level radioactive waste for safe transportation and permanent disposal in a federal repository. The waste resulted from spent nuclear fuel reprocessing conducted by a commercial operator between 1966 and 1972. The primary focus of WVDP operations from the Project's inception in the early 1980's until September 2002, was the solidification of the liquid high level radioactive waste into a stable glass waste form. In September 2002, the Vitrification Facility melter was safely shut down following over six years of processing, filling 275 high level waste canisters. These canisters are currently in storage onsite awaiting transportation to a Federal repository.

The primary areas of work up to December 31, 2004 include decontaminating the Waste Tank Farm, Waste Characterization, and the preparation for waste management and decommissioning. The main hazards at the site are considered unique or normal. The unique hazards include: Removable contamination and High-level ionizing radiation. Normal hazards are associated with chemical handling operations, plant maintenance, and large-scale construction. All work at the site is projected to be completed in 2012. ˜

II. Quantifiable Program Results

WEST VALLEY NUCLEAR SERVICES COMPANY RATES

The team reviewed the OSHA *Log and Summary of Occupational Injuries and Illnesses* (OSHA 300 log) for the current year (2002) and OSHA 200 logs for the three preceding calendar years. The recordable injury incidence (RII) rate and the lost-workday incidence (LWDI) rate for injuries were calculated for West Valley Nuclear Services Company, using the following standard formulas:

$$\text{RII Rate} = \frac{\text{No. of RIs[Col(1) + Col(2) + Col(6)] x 200,000}}{\text{No. of employee- hours worked}}$$

$$\text{LWDI Rate} = \frac{\text{No. of LWD cases[Col(2)] x 200,000}}{\text{No. of employee-hours worked}}$$

The following table presents the calculated West Valley Nuclear Services Company injury rates and associated data for the preceding three calendar years and the three-year average. Rates are calculated using injury data only, and compared to the latest injury rates published by the Bureau of Labor Statistics (BLS) for SIC Code 4953 and 2819, refuse systems and industrial inorganic chemicals manufacturing.

Table 1 – Injury Rates at West Valley Nuclear Services Company*

Calendar Year	LWD Injury Cases	RII Cases	Employee-Hours Worked	LWDI Rate	RII Rate
1999	12	21	2,113,441	1.14	1.99
2000	9	18	2,029,884	0.89	1.77
2001	14	27	1,747,483	1.60	3.09
3-Year Average Rates				1.21	2.28
BLS 2000 National Average for SIC Code 4953				5.9	10.8
BLS 2000 National Average for SIC Code 2819				1.8	3.8

SIC Code 4953-refuse systems

SIC Code2819 -Industrial inorganic chemicals manufacturing

*Data represents WVNSCO and WVNSCO Subcontractors

As the preceding table shows, West Valley Nuclear Services Company meets the requirement that the 3-year-average LWDI and RII be at or below the most recent average for its specific industry.

The data entered on the OSHA 300 log supports the information submitted in the application and contained in the associated injury and illness documents, including first-aid logs and DOE accident/incident reports.

The person responsible for maintaining the log is knowledgeable in OSHA recordkeeping requirements. A review of the records confirmed that recordability determinations are assigned conservatively and may overstate West Valley Nuclear Services Company's recordable injuries.

Interviews with associates confirmed that the data on the log and the supporting documentation are accurate.

III. Management Leadership

West Valley Nuclear Services Company continues to demonstrate a high level of management leadership in maintaining and improving the site's occupational safety and health program. Since receiving DOE-VPP STAR certification in 1999, West Valley Nuclear Services Company has continued to hold managers accountable for and focus on safety as a priority.

A variety of training programs, safety campaigns, and other programs have been developed and implemented since STAR recognition. Current programs have benefited from the three years of maturing experience and continual improvement. The "Weak Moment In Time" safety campaign is an example of a recent program designed to ensure continued awareness and commitment to safety program effectiveness. Management and employees participate jointly in most safety and health activities ranging from inspections to planning.

Management supports a variety of growing and expanding safety training and committee activities. Among these activities are the annual Safety and Health Fair held during National Safety Month, and a Safe Kids Fair for the local community sponsored by the Off-the-Job Safety Team. Management support for such teams continues to have a tremendous impact on how employees become and remain involved in onsite and offsite activities that represent the WVDP's safety culture. In 2001, the Industrial Hygiene and Safety group (IH&S) reviewed injury trends and recognized stairs and slopes as areas for winter injuries; thus expanding the seasonal safety campaigns.

Displays at the annual Safety and Health Fair draw a large attendance.

The review team's observation is that through employee interviews, the President's Round Table meetings, brown bag lunches, and open door policy, management is genuinely concerned with keeping communications open with all employees.

Interviews with upper and mid-level managers revealed a strong interest and belief that safety and health programs need to be continually modified and improved to maintain worker interest and to strengthen program effectiveness. The Material Safety Data Sheet (MSDS) and Chemical Inventory Tracking System has been enhanced to include WVNSCO's intranet-based electronic MSDS management and viewing software database. The database is completely populated with MSDS data from the chemicals used on the site. Continuous review and updating ensures employees receive the most up-to-date chemical safety information on the products they use. When completed, the electronic Chemical

Inventory Tracking System database will automatically generate chemical inventory reports, which will be used to assist in regulatory reporting.

Management also reevaluated the Accident Prevention Team's existence and determined its functions could be executed by the IH&S group. All injuries and illnesses, including first aid cases are reviewed, and all mishaps or events are investigated. IH&S employs a team approach for these reviews and investigations, utilizing SMEs as appropriate. Root causes are identified to prevent recurrence.

West Valley Nuclear Services Company has also continued to improve management accountability for S&H. Interviews with management and discussions with employees indicated managers are held accountable for safety.

WNSCO management has continued to apply adequate resources to its safety programs. These include the aggressive promotion of safety awareness programs (e.g. Interstate Zero and Weak Moment in Time), and maintaining training qualifications of employees

The Team's observation is that management is genuine in keeping the lines of communication open with all associates.

IV. Employee Involvement

West Valley employees and their supervisors or team leaders continue to maintain a strong partnership in the effort to provide a safe work environment at the site. Interviews and document reviews confirmed that employees at all levels are involved in the structure and operation of the safety and health program and in decisions that affect worker health and safety. The re-evaluation team observed a strong synergism between employees and management with regard to all aspects of VPP at the West Valley Demonstration Project.

During the employee interviews team members repeatedly heard positive statements regarding the safety culture at the site. The following are examples of the comments made about safety:

- ✓ During our weekly meetings, safety is discussed first
- ✓ I get to go home the way I came to work
- ✓ Employees care and look out for each others safety

The site continues to stress employee involvement and participation through several initiatives that have been introduced or enhanced in the last three years. Among these are the Weak Moment In Time safety campaign, continued growth in the annual Health and Safety and Safe Kids fair, community outreach, and employee representation on work review groups.

The Weak Moment in Time safety awareness campaign focuses on encouraging employees to insert a right choice that will interrupt a potential chain of events that would otherwise progress to an accident. The campaign recognizes that the choice made at a weak moment can be right or wrong and that the choices being made every day by employees don't always result in an incident or accident. The program emphasizes considering the hazards before performing work to eliminate the temptation to take shortcuts to safety (e.g. standing on a chair to reach a light bulb instead of using a step ladder). Problems tend to occur more when a series of Weak Moment failures line up in sequence. The campaign is trying to avoid these scenarios.

The annual Health and Safety Fair is conducted during National Safety Month. In 2002, the fair drew over 600 employees and 53 exhibitors. The Off-the-Job Safety Team also exemplifies the site's safety consciousness on- and offsite.

Many WVDP employees participate in the Mentoring and Service Learning Program in which children in grades 5-12 are paired with adult volunteers. Volunteers work on academic, cultural, career oriented and social activities. Employees who participate in this program have indicated it serves as an important link between WVDP and the community.

The Work Review Group is a team of WVNSCO employees, representing multiple professional disciplines, established to review work documents and identify potential process and safety issues prior to work package being finalized and authorized by the Facility Manager. Disciplines represented in sample meeting were Industrial Hygiene, Quality Assurance, Waste Management, Environmental Management, Radiological Engineering, the cognizant Project Engineer, and the Facility Manager.
The WVNSCO ergonomics program has evolved from team process to a cognizant subject matter expert driven effort. It should be noted that the Team had some initial reservations regarding the viability of this change in approach. However, these concerns were abated. Responsibility for ergonomic reviews resides with a subject matter expert in the Industrial Hygiene and Safety organization. The individual responsible uses a systematic process to complete the reviews, and requests support from relevant subject matter experts when additional process knowledge is required. It should be noted that support from other individuals has been consistent and there has been no indication that there have been resource constraints when a need has been identified

V. Worksite Analysis

Management commitment and employee involvement have helped to ensure continued comprehensive and thorough worksite analysis. WVNSCO utilizes several methods for ensuring work is safely done throughout the site.

Pre-Job Briefings – A meeting may be held prior to work beginning to review any hazards that have been pre-identified. Pre-job briefings allow employees the opportunity to ask questions regarding the work or provide input that may have not been given earlier in the planning process. Pre-job briefs are applicable to all work orders unless the Work Review Group determines it is not applicable.

Issue Reporting Program (IRP) –The IRP describes the site wide program established to document, communicate and resolve issues identified during daily work activities. The IRP establishes significance, assigns responsibilities and authorities. It defines requirements, and provides for proper identification, documentation control, evaluation and resolution of identified issues through the development and tracking of deficiencies or process improvements. Employees understand the issues reporting process and how issues are tracked to closure.

Baseline Surveys – Site-wide baseline surveys continue to be updated on an annual basis by the Industrial Hygiene and Safety Department through the IH&S Hazard Control Program.

Routine Hazard Control/Compliance Verification – For the work that is to be performed on site the work scope is detailed on work planning documents. This involves the use of a J-1 (Work Order) for the work with multiple or complex steps and a J -15 (Work Request) for routine, skill of the craft work. These work documents are prepared by an originator and requires management reviews and sign off. The Work Review Group meets each morning to review proposed work and review work instruction.

An Engineering Council Committee provides engineers with a tool for their job to ensure things are done up front, expectations are set and work is conducted in a safe and effective manner. The committee is integrated with safety, scheduling and procurement. This committee does mentoring to other engineers.

A. Pre-Use/Pre-Startup Analysis

WDVP routinely analyzes new or significantly modified equipment, materials (including chemicals), processes and facilities for potential hazards prior to use. The chief mechanism for assessing hazards is the Preliminary Hazard Assessment (PHA). The primary focus of the PHA program is to identify hazards associated with the planned action and controls to

eliminate or mitigate those hazards. The PHA program is a systematic review process that establishes the requirement for a formal ES&H review of changes that have the potential to affect the safety or health of employees. The review examines activities, such as the following:

- Equipment and facility modifications prior to construction/installation activities;
- A new process, or a change to an existing process; and
- New business or work for other projects.

Another tool utilized in the pre-use/pre-start up analysis is the Readiness Assessment (RA). A RA was completed in February 2002 for the start of the General Purpose Cell D&D and other decontamination activities at WVDP. The RA focused on management systems, ISM, conduct of operations, procedures, safety systems, and training areas relevant to D&D activities as a whole. WVNSCO also conducted a RA of the Process Packaging & Handling (PPH) Area decontamination project prior to starting the work to dismantle, decontaminate, and package the PPH Glove Box.

In the 2001 Annual Review WVNSCO noted it used a Project Risk Management Plan incorporating ISMS criteria on the Remote Handled Waste Facility project to analyze risk areas in all facets of the design, construction, and operation of the facility. The use of multiple disciplines provides comprehensive analysis during the construction of the RHWF.

Prior to complex hazardous work or at the request of employees performing a task, a mock-up will be used to familiarize personnel with procedures, the process and/or equipment, and the interfaces within the phases of the task. Use of mock-ups continue to be successfully used for both large and small jobs, from performing decontamination evolutions in small areas to pump installations in waste tanks.

B. COMPREHENSIVE SURVEYS

WVNSCO continues to maintain an aggressive comprehensive survey program. The PHA process initiates the formal ES&H reviews of equipment, chemicals, processes and facility modifications prior to initiation of activities. It is designed to identify ES&H concerns, identify controls and ensure adherence to plant operating thresholds. Groups typically involved in the PHA process are ES&H, engineering, and members of the affected work area/process. PHAs reviewed during this re-evaluation effort confirmed that the process is comprehensive.

Site-wide baseline surveys continue to be updated on an annual basis by the Industrial Hygiene and Safety Department through the IH&S Hazard Control Program.

C. ROUTINE HAZARD ASSESSMENTS (SELF-INSPECTIONS)

Routine, general worksite safety and health inspections continue to be performed at WVNSCO.

D. ROUTINE HAZARD ANALYSIS

Routine Hazard Control/Compliance Verification – For the work that is to be performed on site the work scope is detailed on work planning documents. This involves the use of a J-1 (Work Order**)** for the work with multiple or complex steps and a J -15 (Work Request) for routine, skill of the craft work. These work documents are prepared by an originator and requires management review and sign off. The Work Review Group (WRG) meets each morning to review proposed work and review work instruction.

The J-1 Work Order provides detail on the steps and hazards of the work and requires the use of the hazard screen checklist. All work orders reviewed contain the hazard screen and the required sign-off by the Work Review Group. The J-15 does not require a written screen, although the author is still required to assess the hazards of the job. The Industrial Work Permit (IWP) would normally be used for work requests and identifies the hazards and controls of the work. For work requests, the WRG process acts as a peer review and hazard analysis.

The site's 2001 annual DOE-VPP report to Headquarters noted a successful outcome of WVNSCO's routine analysis of job hazards occurred after completing observations of the hoisting & rigging of four 22,000-pound condensate tanks. The J-1 was reviewed by the Work Review Group, then operators walked down the project and suggested changes that were incorporated into the document prior to final approval. The report further noted, the J-1 was then reviewed in the pre-job briefing, where it was discovered that the condition to secure the tank base varied from the document. A field change was made to revise the document prior to the work being performed.

The worksite analysis-work control interface in place at WVNSCO is commendable.

E. EMPLOYEE REPORTING OF HAZARDS

Several avenues are available for WVNSCO employees to report hazards. They include reporting the concern directly to their supervisor, union representative, ES&H representative, open door policy, safety committees, the formal safety concern program, employee concerns hotline, Safety Department, and the issues reporting program. Informal interviews revealed site personnel most often use the open door policy or chain of command to report safety concerns. All persons interviewed indicated that they had no apprehension to report hazards and no fear of reprisal. Identified hazards were said to be addressed in a timely and satisfactory manner.

F. ACCIDENT INVESTIGATIONS

Accident/Incident Investigation has evolved from team process to cognizant subject matter expert assessment. Initial concerns regarding this change in approach were abated. Investigations are done for every first aid and recordable incident. Responsibility for these investigations is assigned to the Industrial Hygiene and Safety organization. The individual responsible uses a systematic process to complete the evaluation, and requests support from relevant subject matter experts when additional process knowledge is required. Corrective actions are identified and agreed to by the individual, their supervisor, and the Industrial Hygiene and Safety Lead. Any corrective actions anticipated to exceed one week until closure are tracked on the WVNSCO Open Items Tracking System.

G. TREND ANALYSIS

WVNSCO uses trend analysis to identify ES&H program deficiencies and to facilitate program improvements. The Quality Assurance department maintains the trend analysis program. Data used for trend analysis includes first aid cases, accident investigation results, OSHA recordable cases, audit findings and ES&H concern line information. Subcontractor information is also included in the trend analysis program. Analyzed data is accessible to all facility personnel through the ES&H website.

Trend analysis data is presented monthly to general management at the Central Safety Committee, distributed to division managers and posted on the ES&H website. These data are reviewed on an annual basis to determine where to focus resources to reduce injury/illness rates.

This year the Safety Observers were asked to produce a list of their “Top Five Concerns”. These lists are used to develop areas of increased awareness activity and walk downs. These lists were compared with the top five concerns generated by reviewing first aid and recordable injuries during 2002 to determine which concerns were perceived as problems and what were the causes of injuries on site. (Slips and falls on walking surfaces were found to be the most frequently occurring). Analysis of incidents by type of injury, body part, location on-site and source of injury are presented at the Central Safety Committee along with the analysis of trends and statistical analysis that are presented monthly.

H. LESSONS LEARNED

The Lessons Learned (LL) Program is endorsed by senior management through written program WVDP-242 "Event Investigation and Reporting Manual, Chapter 10", "Lessons

Learned Program." The site's LL program management and implementation tasks are defined.

A LL Coordinator within the QA department (under the direction of the QA manager) is assigned responsibilities for program tasks; screening, characterizing, summarizing, and dissemination of LL information.

Sources of LL information are defined, available, and frequently reviewed for relevance. Dissemination includes potentially affected discipline managers, training coordinators, sub-contractor interface (when necessary), interface requirements are defined through the utilization of the current organization chart.

During employee interviews, indication that an active program and continuous improvement is being made to enhance interfacing of participants; that the information is properly handled and utilized, and some employees stated that it is mandatory for them to read all LL information and other employees indicated that they don't get any LL information and would like to read the LL information.

I. CONCLUSION

The Team concludes that "Worksite Analysis" remains strong at this site, and meets the expectations of DOE-VPP.

VI. Hazard Prevention and Control

A. Access to Certified Professionals

Although the WVNSCO occupational safety and health program staff has decreased in number from 19 professionals to 10 it continues to be adequately staffed to provide the oversight and technical support necessary for the organization to conduct its operations safely and responsibly. Continued professional development is supported to maintain areas of expertise. The S&H professionals participate in accident investigations and, conduct inspections. During the hazard evaluation process the safety professionals come together as part of the Work Review Group to review work scope, during incident/accident investigations, and for safety task team initiatives such as the Ergonomics Task Team.

Currently there are two CIHs and one member actively pursuing the CSP Certification.

B. Methods of Hazard Control

West Valley Nuclear Services Company continues to implement hazard controls in the following areas: Process or material, Engineering controls, Administrative controls and Personal Protective Equipment (PPE). In 2001, the maintenance shop performed a thorough review of work materials used and removed many solvents from the area and continues to evaluate materials used in search of safer substitutions.

The Respiratory Protection Program continues to be reviewed and improvement initiated. WVNSCO has upgraded the Respiratory Protection Program extensively. Changes have included updating training programs and equipment and providing additional choices for employees when respiratory protection is required. The H&S Training Tracking Badge is presented by the trained worker to the respiratory protection equipment person prior to issuance of the proper respiratory protection equipment. Other changes to the respiratory protection program have included switching to the Duo-Twin air valve from the Duo-Flow air valve for supplied air work and refurbishing powered air purifying respirators with green colored gaskets that make inspection for the presence of the gasket easier to identify. Special lock sleeves to prevent the filters from becoming loose during use and new blower motors are also considered major improvements to the program.

The Ergonomics Program continues to play a strong role in safety. This program, created in 1998, includes employee participation in identifying and correcting ergonomic hazards. Ergonomic assessments of workstations are available upon employee or management request. This program also included job-specific ergonomic hazards training, interviewing each custodial worker regarding hazards specific to their job.

The IH&S department issues special alerts when conditions warrant.

C. POSITIVE REINFORCEMENT

Employees interviewed during the re-evaluation all expressed support for the positive reinforcement efforts by management to encourage the development and growth of a safety culture at WVNSCO. Information on safety programs, awards and safety suggestion programs was readily available. The Facility continues to implement and refine various recognition programs to reward positive safety behavior, including:

- Ideas for Excellence Program
- Safety Coupon Book
- Safety Achievers
- Top Performer Award

The safety achiever award is a monthly recognition initiative through the Central Safety **C**ommittee.

The use of briefings, critiques, lessons learned and other required readings are used as reinforcement tools. During the onsite review, some employee interviews revealed a varying degree in the dissemination of the lessons learned. Several employees felt a greater effort should be made to make this information more readily available throughout the site.

D. DISCIPLINARY SYSTEM

WVNSCO continues to effectively implement and consistently apply a disciplinary program. Employees interviewed were aware of the program's components and indicated that management fairly applied the program. Disciplinary rules are reviewed during new employee orientation, posted on bulletin boards throughout the plant, and redistributed as needed. The re-evaluation team repeatedly observed employees reminding fellow employees as well as team members of practicing safe behaviors such as walking within the designated crossing zones, holding onto hand rails while walking up or down stairs, etc.

E. PREVENTIVE MAINTENANCE

WVDP equipment is cataloged in an electronic database. The Work Control Center, along with tracking work orders, prints preventive maintenance job cards for each piece of equipment that requires PM for the month. The Work Control Center monitors all PM job cards through completion. WVDP is trying a new system, having the PM on a piece of equipment done all at once instead for taking the equipment down for one item maintenance at a time. They feel this will keep the equipment running smoothly without frequent breakdown and catastrophic failures.

The employees interviewed felt very comfortable and positive with the new system in place.

F. Emergency Preparedness and Response

Employee Extinguisher Training at WVNSCO.

WVNSCO continues to maintain a comprehensive and well developed emergency preparedness and response program. Employees interviewed understood their responsibilities in the event of an emergency. In 2002 WVDP conducted CAPEX-2002, that involved the site Emergency Response Organization, and participation of offsite response agencies including mutual aid from the West Valley Volunteer Hose Company, Cattaraugus County HazMat Team, and the Erie County Medical Center. The HazMat Team successfully integrated with WVDP Emergency Response Organization by acting as a field team under the direction of the WVDP Incident Commander.

In preparation and development for an emergency response, WVNSCO utilizes site maps, model vehicles and model responders to simulate response during table-top training scenarios.

G. Medical Programs

The WVNSCO medical programs are well staffed and integrated with the activities of the IH&S department. The medical program provides employees with pre-employment and termination physical and annual assessments as required by job duties. Wellness programs are highlighted by employee health services and are well used by the site.

The medical programs staff consists of a physician, a nurse, 6 EMTS (made up of volunteer employees), the Fire Brigade/Operations Response Team, and the West Valley Volunteer Hose Company. The program is also enhanced by the usage of Cattaraugus County's Hazmat Team.

H. Conclusion

The Team concludes that all aspects of "Hazard Prevention and Control" at this facility are being maintained at levels well above expectations. Their achievements in this area readily exceed this VPP tenet.

VII. Safety and Health Training

The re-evaluation team verified that the West Valley Nuclear Services Company's training program continues to be comprehensive and well administered. The site fully implements a comprehensive training tracking system that is correlated with the security badging system for all employees. Each employee is notified six weeks prior to the time training or a qualification is going to expire. Both the employee and supervisor get additional reminders of the need to complete training in the month prior to the expiration. If the required training is not completed prior to the expiration date, security is notified and the employee's badge is pulled prior to site entry by security, and is replaced with a temporary badge that identifies the lapsed training/qualification. The security badge is not returned until the training/qualification requirements have been satisfied. Supervisors in the field routinely view the worker's training tracking badge to ensure that the worker has the required training for the work scope they are assigned to perform.

Improvements to the current tracking system were made in 2001 when WVNSCO implemented a new requirement for supervisors to view each worker's Training Tracking Badge to ensure that they are properly trained for their assigned work scope. WVNSCO has also included subcontractors in this process to ensure they have the correct training and qualifications for the work they perform.

WVNSCO has established a goal to reach all employees with the Weak Moment In Time safety awareness campaign. In this process it has presented the campaign to the Remote Handled Waste Facility construction subcontractors. WVNSCO has been sponsoring activities and using different communications media to emphasize the WMIT program.

WVNSCO also made improvements in many of the major programs such as Radiation Worker, General Employee Training, and Conduct of Operations. The site is seeking to use alternative means of training wherever possible. For example, the respiratory protection refresher training has been updated to a computer-based training format.

All site personnel interviewed, including subcontractors, responded that the level of safety and health training they have received is sufficient to allow them to conduct their job in a safe and healthy manner.

The team concludes that the facility exceeds the expectations of a quality safety and health training program routinely observed at other VPP sites.

VIII. General Assessment

A. Safety and Health Conditions

The DOE-VPP re-evaluation team conducted a number of walkarounds, both as a group and individually, and conducted a number of interviews with West Valley Nuclear Services Company personnel. The consensus of the re-evaluation team was that the site was exceptionally well maintained and demonstrated a quality safety culture expected at facilities dedicated to continuous improvement.

B. Safety and Health Programs

The DOE-VPP re-evaluation team found that the West Valley Nuclear Services Company's safety and health program has a continuing, highly effective safety program. The overall program is comprehensive, integrated, and well communicated. The re-evaluation team believes that this program has maintained its safety culture, and easily meets all the expectations of a DOE-VPP site.

IX. Recommendation

During the onsite re-evaluation visit, the review team identified and observed several exemplary activities associated with each of the VPP tenets. These activities include:

Employees chocking vehicle wheels when parking on an incline;

The creation of a no-pile zone to prevent black ice during the freeze/thaw cycle;

The implementation of Winter Awareness campaigns targeted to address seasonal issues such as slips, trips, and falls;

The installation of exterior stair covers to avert annual stair maintenance and personnel exposure to the resultant paint fumes;

Employee use of gloves when making sandwiches at the self-service cafeteria sandwich bar; and

Guard use of hand sanitizer at Security Badge screening checkpoints.

Based on interviews, observations, and documentation reviews, it is the unanimous recommendation of the DOE-VPP onsite re-evaluation team that West Valley Nuclear Services Company meets all the VPP tenets.

Appendix

DOE-VPP Review Team Assignments
West Valley Nuclear Services Company

October 22-24, 2002

Name	Organization	Areas of Responsibility
Name: Carlos Coffman Phone #(301) 903-4664 e-mail Carlos.Coffman@eh.doe.gov	Team Leader EH-51, DOE, Germantown, MD	**Management Leadership** Commitment, Responsibility, Line Accountability, Resources, Planning, Visible Management Involvement, Records Review, IIR, LWDI rates, Contract Workers, Site Orientation, Program Evaluation and Employee Notification
Name: Carol Henning Phone # (208) 526-8042 e-mail: hennincs@id.doe.gov	DOE Idaho Operations Office	**Employee Involvement /Safety and Health Training** Degree and Manner of Employee Involvement, Safety and Health Committees, Employee Training, Supervisor Training, Manager Training, Accident Investigations
Name: Ruby Lopez-Owens Phone # (702) 295-1589 e-mail owensr@nv.doe.gov	DOE Nevada Operations Office	**Worksite Analyses** Self Inspections, Preventative Maintenance, Pre-use/Pre-startup Analysis, Trend Analyses, Job Hazard Analyses, Hazard Tracking Degree and Manner of Employee Involvement, Safety and Health Committees, Employee Reports of Hazards, Accident Investigations
Name: Ruby Lopez-Owens / Carlos Coffman		**Hazard Prevention and Control** Comprehensive Surveys, Access to Certified Professionals (Professional Expertise), Methods of Hazard Control, Medical Programs, Radiation Protection Program, Positive Reinforcement (Safety and Health Rules), Personal Protective Equipment, Emergency Preparedness, Disciplinary System.